



ADVANCING ENVIRONMENTAL SOLUTIONS

NORTH AMERICAN ENVIRONMENTAL REPORT



20
16

CARBON

TOYOTA

→

No. 1

CARBON



Reducing emissions of carbon dioxide and other greenhouse gases from our vehicles and facilities is the foundation of our carbon strategy. We are exploring every avenue to help the world advance toward a low carbon future.



Toyota *and* Carbon

Improving fuel economy and reducing tailpipe emissions are major drivers for our investments in advanced technology. We launched the second generation of our plug-in hybrid, Prius Prime, in the fall of 2016. Prius Prime’s EPA-estimated 133 MPGe makes it the most fuel-efficient vehicle on the road today. Prius Prime brings the number of Toyota and Lexus hybrid models available in North America to 14.

We continue to invest in energy savings at our facilities. Since 2002, Toyota’s North American manufacturing plants have reduced overall energy consumption by 35 percent and saved over 16 billion kilowatt-hours of electricity, the equivalent of powering 995,000 average American homes for an entire year. Thanks to these efforts, Toyota earned the U.S. EPA’s ENERGY STAR Partner of the Year – Sustained Excellence in Energy Management Award for the 12th consecutive year.

Highlights from 2016

A

Toyota Mirai *2016 World Green Car*

Toyota Mirai is one of the world’s first mass-produced hydrogen fuel cell electric vehicles. Mirai, named the 2016 World Green Car, combines an EPA-estimated 67 miles per gallon equivalent city/highway/combined with an EPA-estimated driving range of 312 miles, all in a vehicle that emits nothing but water vapor.

A

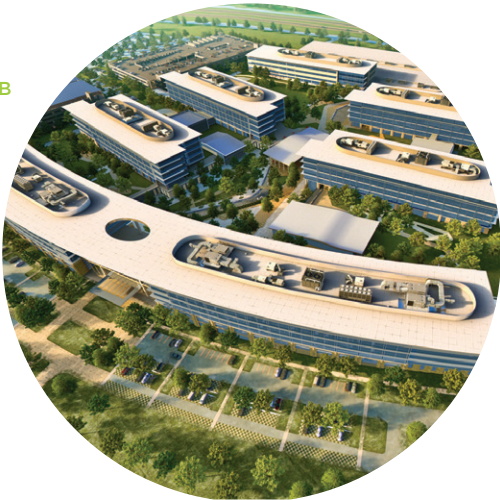


B

Solar Power *Plano, Texas*

Toyota’s new North American headquarters campus in Plano, Texas, will be powered by 100 percent renewable energy. About 25 percent of the site’s power needs will come from a 7.75 megawatt solar array, which will be the largest on-site corporate office solar installation among non-utility companies in Texas.

B





Toyota is collaborating with the National Renewable Energy Laboratory (NREL) to find ways to advance hydrogen. Led by Craig Scott (left) from Toyota's Advanced Technologies Group and Keith Wipke from NREL, we are working together to realize hydrogen's potential as a sustainable transportation fuel.



Outreach

For the second year, the *ECS Toyota Young Investigator Fellowship* awarded grants of \$50,000 to three young professors and scholars. Their research in green energy technology could advance the development of next-generation vehicles running on alternative fuels.

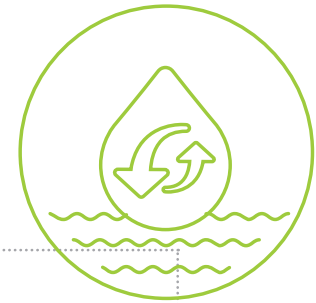
Toyota sponsored the Southwest Engineering Team from Southwest High School in San Antonio, Texas, as part of the 2016 *Shell Eco-marathon Americas*. The Shell Eco-marathon challenges students to design, build and drive the most energy-efficient car.





	→	No.2
TOYOTA		WATER

WATER



We have developed a 360° approach to water stewardship that focuses on water conservation and watershed protection activities. What we do today to protect this precious resource advances us toward a better tomorrow for the planet.

Toyota *and* Water

Water is vital to the health of our economy and our environment. As the world's population increases, so, too does the demand for fresh water. Research by the 2030 Water Resources Group suggests that by 2030, global water demand will be 40 percent greater than today's reliable, accessible supply. That demand relies on the small fraction of water on the planet that's fresh water and actually available for people to use.

That's why we continue our efforts to conserve water. In 2016, we reduced water withdrawals by 99.8 million gallons, or the amount used in one year by 911 average American families. But we don't stop there. Our approach to water stewardship encompasses our own operations as well as those of our business partners and communities. We supplement these conservation efforts with outreach activities that protect water quality and restore habitat.

Highlights from 2016

A

Lexus Eco Challenge

Sponsored by Lexus and Scholastic

"Aquaponics" from Christa McAuliffe School in Jersey City, New Jersey, was the winning middle school team in the 2015- 2016 Lexus Eco Challenge. The team researched how to prevent algae from reaching a bloom state in their local reservoirs.

A



B

Earth Day Poster Contest

Sponsored by Toyota's Indiana plant

Fifth-grade students from Farmersville Elementary in Mount Vernon, Indiana, are wearing T-shirts with the winning design from the Earth Day Poster Contest, hosted by Toyota's assembly plant in Princeton, Indiana. The contest awards the student who best expresses why clean water and protecting water resources are so important.

B





Steve Kay (left), service director at Modesto Toyota, and Steve Waddell, vehicle operations manager for Toyota Motor North America, were joined by dealerships and customers across Northern California who participated in “*The Wash Can Wait*” program. Giving customers the option of foregoing a car wash after service saved 8.4 million gallons of water.

Outreach

For the past five years, Toyota has been partnering with the Wyland Foundation in support of the *National Mayor's Challenge for Water Conservation*. In April 2016, U.S. residents from 4,100 cities in 50 states pledged to reduce national water waste by more than 1.9 billion gallons.

Toyota served as the official sponsor of the *Keep It Clean* comedy benefit. Proceeds are helping more than 290 Waterkeeper organizations defend rivers, bays, streams and coastlines worldwide from pollution.





	→	No. 3
TOYOTA		MATERIALS

MATERIALS



We take every opportunity to enhance how we manage materials, whether they end up in our final product or not. Everything we do today to use sustainable materials and reduce waste advances us toward a cleaner, healthier future.



Toyota *and* Materials

Toyota uses sustainable materials – those that are renewable, recyclable or made of recycled content – wherever practical. In May 2016, Toyota became the world's first automaker to use biohydrin, a newly developed biosynthetic rubber product, in engine and drive system hoses. Biohydrin rubber is expected to be used on all Toyota automobiles manufactured in Japan by the end of 2016, including Prius family vehicles manufactured in Japan and sold in North America.

Toyota developed a new waste metric known as the 3R Rate, which is defined as: (Reduce + Reuse + Recycle) / Total Waste. Toyota's 3R Rate shifts the focus from zero waste to landfill to reduce/reuse/recycle. In 2015, our 3R Rate in North America was 96 percent for non-regulated waste. Our 3R Rate uses the same waste hierarchy promoted by the U.S. Zero Waste Business Council, of which we are a founding member.

Highlights from 2016

A

Custom Pallets

Made from 100 percent recycled wood

Classic Pallets designed 12 custom-made pallets using 100 percent recycled wood for the Mirai's spare hydrogen fuel tanks, which are shipped from Japan to Toyota's parts center in Ontario, California. Classic Pallets offers a unique service of repairing/rebuilding pallets from other scrap pallets so that no wood goes to landfill.

B

WasteWise Award

Very Large Business Partner of the Year

In January 2016, the U.S. EPA recognized Toyota Motor North America with a WasteWise Partner of the Year Award in the Very Large Business category. The WasteWise awards program recognizes organizations' efforts to reduce waste, increase recycling and purchase environmentally preferable products.

A



B

We Voluntarily Participate in



Angela Gubacsi (left) from Toyota, Adam Knowles from Pakfab and Julie Cook from Toyota Boshoku worked together to find a way to use the headliner cut out to make room for a sunroof – a waste once thrown away in a landfill – to make bins to ship and store vehicle parts.



Outreach

Last year, we collected 267,818 pounds – equal to the weight of 20 full-size male African elephants – of *electronic and household waste as well as items that can be donated to those in need*, from team members and surrounding communities.

Since 2012, Toyota has made three donations to *Digital Inclusion* totaling 601 used computers, monitors and related parts. Digital Inclusion is a computer refurbishment and technical training enterprise that benefits area youth and low income residents.



BIO- DIVERSITY



We are committed to operating in harmony with the environment. By harnessing the power of collective action, we are advancing the health of ecosystems so that future generations may continue to enjoy the natural wonders of our world.

Toyota *and* Biodiversity

Biodiversity refers to the variety of animal and plant life on Earth. This diversity is crucial for the functioning of ecosystems.

At the core of our biodiversity efforts lies our partnership with the Wildlife Habitat Council (WHC). WHC collaborates with corporations and other landowners to create tailored voluntary wildlife habitat enhancement and conservation education programs. Toyota currently has over 1,000 acres across 10 North American sites with Conservation Certifications from WHC.

Protecting pollinators is an important part of our biodiversity program. Pollinators move pollen from the male to the female part of a flower to fertilize the plant. Pollinators come in different shapes and sizes, from birds to bees, bats and butterflies. We are proud to do our part to support these industrious creatures. Two of our sites maintain honey bee colonies, four sites have certified monarch waystation habitats and 11 sites are maintaining pollinator gardens.

Highlights from 2016

A

Monarch Butterflies

Tagged at Toyota's Woodstock plant

Last spring, team members from our assembly plant in Woodstock, Ontario, raised 13 monarch butterflies from caterpillar to adulthood. Before the butterflies were released, they were fitted with tags from Monarch Watch to collect information about the monarch's migration, including route and distance travelled.

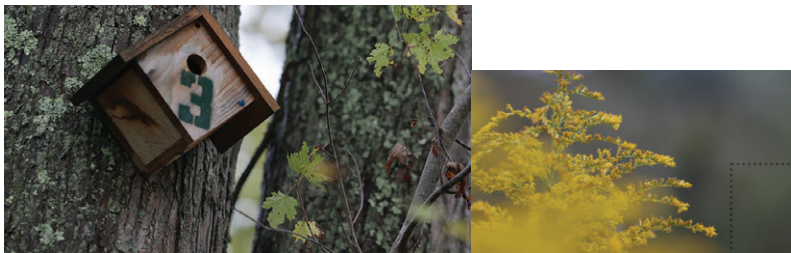
B

Wildlife Walking Trail

Built by Toyota's Alabama plant

Toyota's assembly plant in Alabama built a wildlife walking trail so that team members could enjoy wildlife and nature at work. A pond, purple martin bird houses and several pollinator gardens line the one-mile trail, which opened in the spring of 2016.





Zachary Sallade, fourth-grade teacher at Hometown Elementary School, brings his class to the green loop at Toyota’s West Virginia powertrain plant. Wildflowers, pollinator gardens, and bird and bat houses help to teach the students about native plants, insects and animals.

Outreach

During the 2015 *National Public Lands Day*, volunteers, including 4,000 Toyota team members, collected approximately 500 tons of trash, built and maintained 1,500 miles of trail and contributed an estimated \$18 million to improving public lands across the U.S.

We partnered with Toyota dealers to hand out tree seedlings to more than 450 students in Quebec. For each tree they planted, Toyota arranged for the *Eden Projects* to have the same number of trees planted in Madagascar.



Looking Ahead *to 2050*

In October 2015, Toyota Motor Corporation (TMC) announced the Toyota Environmental Challenge 2050, an ambitious set of six global challenges that ultimately seek to create a net positive impact on society. The six challenges address complex environmental issues facing communities all around the world:

- **Challenges 1, 2 and 3** focus on carbon and call for eliminating greenhouse gas emissions from our vehicles, operations and supply chain.
- **Challenge 4** addresses water availability and quality.
- **Challenge 5** seeks to move us closer to a recycling-based society.
- **Challenge 6** is devoted to protecting nature.

Here in North America, we have aligned our core focus areas (Carbon, Water, Materials and Biodiversity) with the six global challenges and are enhancing outreach activities to advance us toward creating positive change and a more sustainable future.

For more information on the Environmental Challenge 2050, visit
www.toyota-global.com/sustainability/environment/challenge2050/.

Environmental *Fast Facts*



CARBON: **14 hybrid models** available in North America, including our second generation plug-in, Prius Prime



WATER: **99.8 million gallons saved** in 2016, or the amount used by 911 average American families in one year



MATERIALS: **96 percent** of our non-regulated waste was reduced, reused or recycled in calendar year 2015



BIODIVERSITY: **10 North American facilities** earned Conservation Certifications from the Wildlife Habitat Council

TOYOTA 2016 NORTH AMERICAN ENVIRONMENTAL REPORT



For more information on our environmental programs and initiatives as well as our performance against targets, please visit the 2016 Toyota North American Environmental Report:

toyota.com/usa/environmentalreport2016/index.html
toyota.ca/rapportenvironnemental2016 (FRENCH)

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